

Sub: Chenab, Anjikhad Bridges – Global Tender

Konkan Railway Corporation Ltd.(KRCL) is retained by the Ministry of Railway through Northern Railway to execute the Chenab Bridge and the Anjikhad Bridge on Katra-Laole Section of new Broad Gauge Jammu – Udhampur – Srinagar – Baramulla Railway link Project. KRCL proposes to appoint the executing agency for this work through a two-stage selection process.

STAGE 1 – PRE –QUALIFICATION & SHORT LISTING OF AGENCIES FOR DESIGN & CONSTRUCTION OF CHENAB, ANJIKHAD BRIDGES.

During this stage, the prospective bidders are required to submit a report bringing out their appreciation of the work involved and their general approach and methodology. They will also have to establish their credentials-capabilities and experience to execute the work. KRCL will prepare a short list of parties on the basis of this report and other data made available. Only the selected parties will qualify for participation in the second stage of the selection process.

A brief description of the work is given below.

1.0 DESCRIPTION OF THE TERRAIN

- 1.1** Railway alignment passes through a very rugged terrain of Himalayan ranges and crosses deep gorge of the Chenab River along with many other valleys and khuds. These locations are situated in remote areas without any road & other communication facilities as on date. The proposed bridge on Chenab River will be about 60 kms North of Katra town. The pukka motorable road exists for the length of about 50 kms further. One has to travel about 15 km. on foot or on pony. The distance of far end of the bridge would be around 70 kms from Katra. The Katra town is located about 50 kms Northwest of Jammu Railway station.
- 1.2** The Anjikhad Bridge will be around 23 kms towards North of Katra town out of which existing motorable road is about 12 kms. Remaining distance has to be covered by foot or by pony.
- 1.3** The nearest Railway head/Air head for Katra town is Jammu, which is also Capital City of J&K State during winter season.

2.0 REGIONAL GEOLOGY

2.1 The proposed alignment between Katra and Qazigund generally passes through Siwalik and Pre-Tertiary rocks overlain by unconsolidated sediments of recent to Sub Recent age. The alignment crosses through Panjal Thrust, Murree Thrust and Main Boundary Thrust. On account of high tectonic activities in Himalayas, the rocks along proposed alignment are folded, over thrust and faulted at many places. Due to this, rocks are highly jointed and crushed.

2.2 The regional geology and tectonic framework of the area indicate that the region is capable of generating earthquakes of severe intensity. The tectonic movement of the Himalayas has resulted in over lapping of the rocks of different geological periods and is marked by presence of major thrusts and faults. Because of presence of these tectonic lineaments the area is prone to seismicity. The bulk of alignment lies in seismic zone V as per Indian Standard seismic zoning map, IS 1893-1984. Therefore, Indian Standard Criteria for earthquake resistant design of structure may be adopted in the design of sub-structure / bridges. The important structure will be designed to take care of forces/movements that the structure may be required to withstand.

2.3 At Chenab Bridge crossing, the deposits of weathered lime stone and intensely jointed lime stone are observed in the sample bore holes.

3.0 DESCRIPTION OF SITES

3.1 Special features of Bridge on Chenab Crossing –

- The proposed location of the bridge is at 60 km North of Katra.
- Length to spanned : 1263m.
- The height is about 359 m. above river bed
- Slope along Katra side (South side) abutments are of the order 45 to 50 deg for a height of 200 m from river bed and then slopes become slightly gentle about 30 deg. The Quazigund bank sides (North) are more steep and vertical to sub vertical
- Site would need detailed investigations.
- Riverbanks may need specialized stabilization.

3.2 Special features of Bridge on Anjikhad crossing –

- The proposed location of the bridge is at 23 km from Katra.
- Length to be spanned : 657 m
- The height is 186 m. above river bed.

- On Katra Side bank slopes are steep and are vertical to sub vertical.

3.3 Common information

- Site would need detailed investigations.
- Rocks are jointed and fractured.

The foundation media of the proposed bridges, bedrock comprises of highly jointed and fractured dolomite limestone / siliceous limestone.

Rivers cross-section of proposed location of Chenab Bridge and Anjikhad are enclosed. The photographs of Chenab and Anjikhad Bridge Crossing on Chenab River are also enclosed.

4.0 CLIMATE

The J&K State climatically is divided in three parts namely the Jammu region, the valley region and Leh Ladakh region. The proposed locations of the bridges are lying in the first region i.e. Jammu region. The climatic condition of the Jammu region is almost same as prevalent in plane.

4.1 RAINFALL

In Jammu region there is a considerable rainfall in the monsoon months i.e. from June to September like the rest of the country.

4.2 TEMPERATURE

The day temperature in the lower reaches of Jammu region shoots upto 45 centigrade and the night temperature may touch 35 centigrade during the summer months.

During winter the temperature varies from 15 centigrade during daytime and 2 to 3 centigrade during nighttime.

However, at bridge sites, the temperature will be lower than temperature at Jammu.

5.0 CRITERIA FOR PRE QUALIFICATION

The credentials of the prospective bidders will be screened for their suitability to undertake the above works. Requisite formats for same are placed as Annexures A,B,C,D & E. Criteria for screening will include: -

- 5.1** Details of Design & construction of major Bridges/ similar project executed on turnkey basis, Completed /in progress during last 5 years and cost thereof.
- 5.2** Number of projects where work is completed in time with client's certificates.
- 5.3** List of plants & machinery owned by the bidders.
- 5.4** Details of professional organization - man power with Curriculum Vitae of professional staff.
- 5.5** Capability to supervise & design major bridges of similar nature.
- 5.6** Financial status of the company including Annual financial Statements of last 5 years and any other documents establishing credit rating and financial health.
- 5.7** Details of arbitration cases, court cases/disputes for the works executed during last 5 years.

6.0 KRCL'S OFFICES

6.1 KRCL's Corporate/ Project Division Office:

Shri. B. Rajaram	:	Managing Director
E- mail address	:	md@konkanrailway.com
Shri. D.G.Diwate	:	Director (Way & Works)
E- mail address	:	dwwkrcl@vsnl.com
Shri. Arvind Shevare	:	General manager (Projects)
E- mail address	:	gmpkr@vsnl.net
Shri. Laxmi Narayan	:	Chief Project Manager
E- mail address	:	cpmkr@vsnl.net

7.4 The target for completion of construction of bridges is by 31st December 2006.

8.0 SCOPE OF REPORT

8.1 Preliminary Technical Feasibility report to execute the work should interalia cover the following aspects–

8.2 Complete requirements of field investigations including detailed geo technical studies/physical examination investigations, with particular reference to proposed Chenab Bridge and Anjikhad Bridge locations.

8.3 Evolve a technical design hypothesis and reasons for same – based on current ground conditions and bidder’s previous experience with similar cases.

8.4 Conducting of necessary model tests covering wind tunnel tests and seismic studies details of how and where they will be conducted and the norms.

8.5 Method of construction and concerns the bidder perceives

8.6 Project planning and complete programme on how the work will be completed by December, 2006 (including investigation, designs, proof checking and execution)

8.7 Preliminary estimates for the bridge based on experience of having executed similar bridges – after factoring in above-mentioned special aspects

8.8 The bidders are expected to visit the site and gain adequate knowledge, which is to be demonstrated by including a chapter on site inspection results, covered specifically.

8.9 Outlines of the design that will be followed and the probable cost of such construction.

9.0 CONDITIONS

9.1 Bidders have to submit a Preliminary Technical Feasibility Report along with pre qualification documentation prescribed in para 5.0. Short listing of bidders will be done based on the Company’s background of having executed similar project on turn-key basis plus their financial capacity, credentials, organizational set up and infrastructure etc. as well as presentation of the Preliminary Technical Feasibility Report as needed.

- 9.2** Intending bidders will have to make their own arrangement to visit the site. Site engineers from Konkan Railway field office at Katra may accompany the bidders, if required.
- 9.3** There will not be any payment for this work and also there is no earnest money or bid money to be deposited for submission of the bid. The report itself will be deemed to be equivalent of the same. Any offer without accompanying the Preliminary Technical Feasibility Report will be summarily rejected.
- 9.4** The last date for prescribed for submission of the documents is 20th January 2004.
- 9.5** Decision of Managing Director, KRCL will be final in short-listing the bidders.
- 9.6** The pre qualification documents with Preliminary Technical Feasibility Report should be submitted to Project Division at the following Address:

General Manager (Projects)
Konkan Railway Corporation Limited
Raigad Bhavan, 8th Floor
P.B.No.45, Sector 11,
CBD Belapur
Navi Mumbai – 400 614
INDIA
Tel: 022 27857 20 15 / 16/ 17 Ext. 221 / 204

10.0 STAGE II: LIMITED TWO – PACKET BIDDING.

- 10.1** In the second stage, the short listed bidders will be expected to participate in offering a detailed technical and commercial offer in separate packets, which will be evaluated as per the standard two packet bidding system as per procedure.

Laxmi Narayan
Chief Project Manager
Konkan Railway Corporation Ltd.